Soft-Sided Containers Deployment

Accelerated Site Technology Deployment
Integrated Decontamination and Decommissioning Project

Need

Decontamination and Decommissioning (D&D) of surplus facilities at various U.S. Department of Energy (DOE) sites produces waste. A majority of waste generated is considered low-level—either low specific activity materials or surface contaminated objects. The refuse must be contained and transported to a permanent disposal facility by means that protect workers and the environment. Soft-sided containers serve that purpose in an efficient, cost-effective manner.

Technology Description

Transport Plastics, Inc. has developed a Low-Level Waste Packaging System known as Lift-Liner™ bags for safe storage and transport of contaminated materials. These bags are made of woven and coated 25-mil (0.025-inch) polypropylene and are lined with two layers of 40-mil (0.040-inch) high-density polyethylene. Four flaps fold across the top of a full bag and are secured by 20 1-inch straps of polyester webbing. The system also includes a loading frame, which supports a container as it is being filled, and a lifting frame, which can be hooked to a crane and attached to 2-inch polyester straps on the outer shell of a full bag in order to raise it onto a transport vehicle.

Benefits

- Cost less than metal containers ($365 compared with $735, resulting in a savings of $1800 per bag—1 bag versus 3 or 4 boxes)
- Lighter, more compact—empty bags can be moved by hand
- Hold three times as much as a metal box
- Easier to load
- Hold larger debris, so less waste processing is necessary in some cases
- Reduce void space and landfill subsidence

Status

Soft-sided containers have been deployed at the Idaho National Engineering and Environmental Laboratory's (INEEL) Sewage Treatment Plant, Security Training Facility, Auxiliary Reactor Area, and Naval Reactors Facility. Users have been so impressed with the Lift-Liner™ bags that they have become the baseline for low-level waste disposal at the INEEL. The only exception is in cases where puncture is a risk, because rebar and other items can make holes in the soft-sided containers. Even in such cases, soft-sided containers can be used if protruding rebar is cut prior to loading or if sharp objects are loaded on top of other waste in the container.

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